

## ABSTRACT OF THE DISCLOSURE

A local oscillator for use in an optoelectronic distance measurement system for generating a narrow-band HF signal for direct signal mixing with a reception signal generated by an avalanche photodiode (2) from a light signal impinging on the latter, with the depletion layer capacitance ( $C_{APD}$ ) of the avalanche photodiode (2), which varies due to different influences and specimen scatter, is incorporated, as an element which (co-)determines the oscillator frequency, in a controllable HF resonant circuit whose HF resonant frequency is determined, for example, by the adjustable divider ratio of a PLL-circuit (1) which is acted upon by a phase-locked reference oscillator (6) and which controls the capacitance (C) of a capacitance diode (3) connected in parallel with the depletion layer capacitance.